

Quantarium Land Improvement Detection Services

The most accurate and efficient method for the detection of land changes and agricultural rollbacks.

Quantarium uses *proprietary computer vision (CV)* and custom deep learning architecture for orthographic imagery change detection.

Computer vision adds the ability to discard year-to-year changes such as shadows due to variations in the time of the day of image acquisition, seasonal water, snow, lighting changes, grass & vegetation color variation, and vehicle/trailer moves.

Without computer vision, simply looking at the differences between the two images at pixel level would generate multiple false positives.

Industries

GOVERNMENT AGENCIES: Organizations responsible for tax assessment, agricultural policies and regulation and compliance monitoring.

FARMERS' ASSOCIATIONS: Associations representing farmers and agricultural workers can monitor compliance and adherence to agricultural practices, detecting agricultural rollbacks.

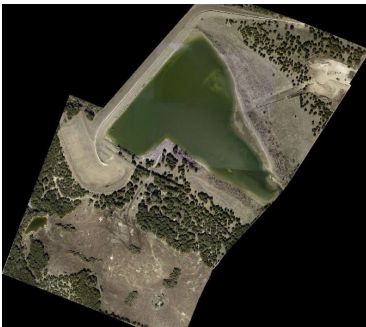
ENVIRONMENTAL ORGANIZATIONS: Non-governmental organizations (NGOs) or environmental advocacy groups focusing on monitoring and preserving natural resources can identify instances of deforestation and wetland destruction.

RESEARCH INSTITUTIONS: Academic institutions or research organizations analyzing agricultural practices, land-use changes, or the impact of policy decisions may benefit from detection service data to inform their research efforts.

AGRIBUSINESSES: Companies involved in the agricultural supply chain, such as food processors, distributors, and retailers, can monitor agricultural rollbacks to ensure the sustainability and compliance of their supply sources.

FINANCIAL INSTITUTIONS AND INVESTORS: Banks, financial institutions, and investors with interests in the agricultural sector require information on agricultural rollbacks for risk assessment and due diligence.

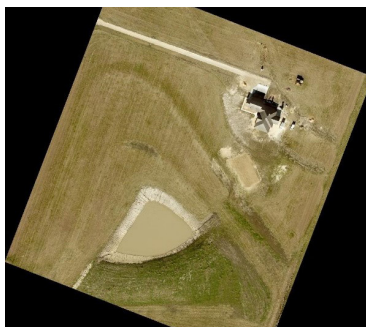
BEFORE



AFTER



In this example, Quantarium's computer vision detects an early AG rollback where only roads are visible in the "after" photo.



Detecting a single building and a pond being added to an AG parcel.



In a naïve implementation, simply looking at pixel-by-pixel differences would generate false positives – in this example, the color of the grass changes, as well as the size of the pond, and the size of the (possibly) chicken coop in the top part of the image.

Why Quantarium

UNMATCHED ACCURACY

Quantarium maintains stringent quality control standards and enlists the power of machine learning to constantly improve and enhance the quality and accuracy of the data.

In one sample county, Quantarium's CV determined a backlog of 350 additional rollbacks + 150 promising out of 10,000 AG parcels, vs. only 130 found by the previous vendor during all prior years.

VELOCITY

Swiftly cover vast territories, capturing comprehensive and detailed data efficiently.

COST EFFECTIVENESS

The scalable nature of aerial computer vision technology leads to significant cost savings in the long run by reducing manual labor and overhead costs.

TIME EFFICIENCY

The technology's ability to process and analyze data quickly provides near real-time insights, drastically reducing the time between data collection and actionable decision-making.

INTEGRATION CAPABILITY

The data obtained from aerial computer vision can be seamlessly integrated into existing GIS platforms, enhancing the efficiency of decision-making and strategic planning.

CONSISTENT MONITORING

Automated and frequent data collection allows for consistent monitoring of land changes year over year, ensuring a fair and timely tax assessment process.



About Quantarium

Quantarium offers an award-winning AI-enhanced data set that delivers unparalleled breadth, depth, and precision. This comprehensive data set provides a consolidated view of all parcels, encompassing crucial information such as sales, financing, foreclosure status, assignments, equity positions, loan balance estimates, and valuations. Unlike standard public record solutions, Quantarium's enhanced content empowers teams with a holistic understanding of each property, offering vital and accurate insights. Furthermore, Quantarium's Managed Data Set (QMDS) offers ready-to-consume reports and actionable data, saving valuable time by eliminating the need to sift through billions of transaction records.

With its award-winning machine-generated and AI-enhanced data, Quantarium leads the industry in providing valuations, analytics, risk management, portfolio optimization, and decision-modeling services for the US Housing Sector.

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